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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/874,514

06/05/2001

Samuel J. Danishefsky

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(SK-744-CON3)

6697

24280

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09/06/2002

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EXAMINER

SOLOLA, TAOFIQ A

ART UNIT

PAPER NUMBER

1626

DATE MAILED: 09/06/2002

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/874,514

Applicant(s)

Danishefsky et al.

Examiner

Taofiq A. Solola

Art Unit

1626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on Jul 19, 2002
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 30 and 59-143 is/are pending in the application.
- 4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30, 59-64, 69-77, 82-101, 106-119, and 124-143 is/are rejected.
- 7) ☒ Claim(s) 65-68, 78-81, 102-105, and 120-123 is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some\* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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Claims 30, 59-143 are pending in this application.

Claims 1-29, 31-58 are canceled.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 30, 59-64, 69, 71-77, 82-101, 106, 108-119, 124-143, are rejected under 35 U.S.C. 103(a) as being unpatentable over Bollag et al., Cancer Res., Vol. 55 (1995), pages 2325-2333.

Applicants claim composition of epothilone and methods of use for treating cancer or tumors particularly drug-resistant cells. In preferred embodiments, the epothilone has ethyl, propyl or butyl at position R and the composition further comprises at least one cytotoxic agent. Applicants also claim variable effective amounts of the epothilones, such as, from about 0.001 to about 1 mg/kg of body weight, and administration of the effective dose to a subject multiple times.

*Determination of the scope and content of the prior art (MPEP §2141.01)*

Bollag et al., teach epothilones A ( wherein R is H) and B (R is methyl), their compositions as oily residue (column 2, page 2326) and methods of use for treating cancer or tumor and

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particularly multiple drug-resistant cells. See column 2, page 2331. Bollag et al., also teach the method of use of epothilones in combination with taxol (a cytotoxic agent). See column 2, page 2328 to column 1, page 2330.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

The difference between the instant invention and that of Bollag et al., is that applicants substitute methyl, ethyl or propyl for H at position R. Applicants are also claiming effective amounts of epothilones from about 0.001 to about 1 mg/kg of body weight, and administration of the effective dose to a subject multiple times.

Finding of prima facie obviousness---rational and motivation (MPEP §2142.2413)

However, H and alkyl are art recognized equivalents. *In re Lincoln*, 126 USPQ 477, 53 USPQ 40 (CCPA, 1942); *In re Druey*, 319 F.2d 237, 138 USPQ 39 (CCPA, 1963); *In re Lohr*, 317 F.2d 388, 137 USPQ 548 (CCPA, 1963); *In re Hoehsema*, 399 F.2d 269, 158 USPQ 598 (CCPA, 1968); *In re Wood*, 582 F.2d 638, 199 USPQ 137 (CCPA, 1978); *In re Hoke*, 560 F.2d 436, 195 USPQ 148 (CCPA, 1977); *Ex parte Fauque*, 121 USPQ 425 (POBA, 1954); *Ex parte Henkel*, 130 USPQ 474, (POBA, 1960).

Applicants are reminded that when the difference between compounds is only in the length of a carbon chain of a particular substituent, such as methyl, ethyl, propyl, etc., such compounds are adjacent homologs. However, adjacent homologs are prima facie obvious. In re Henze, 85 USPQ 261 (1950). For Bollag et al., to use epothilones for the treatment of cancer or tumors, effective amount must necessarily be used. Also, claiming variable effective amounts of

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epothilones, and administration of the effective dose to a subject multiple times, is not in and of itself patentable over the prior art of Bollag et al. Administration of effective amount of a drug and at different times, in the treatment of cancer are well known in the art of medicine.

Therefore, the instant invention is prima facie obvious from the teaching(s) of Bollag et al. One of ordinary skill in the art would have known to substitute methyl, ethyl and propyl for H at position R in the compound of Bollag et al., claim effective amounts of epothilones, and administration of the effective dose to a subject multiple times, at the time the instant invention was made. The motivation is in the expectation that the epothilone compositions would be effective for the treatment of cancer given the experimentation performed by Bollag et al., and the results.

Applicant's arguments filed 7/19/02 have been fully considered but they are not persuasive. Applicant argues that Bollag et al., do not teach preparation of the composition comprising effective amounts for treating cancer, that there is no expectation of success from Bollag et al., teaching, and that there is no evidence that epothilone A or B would inhibit cancer in animal model. These are not persuasive for reasons set forth above.

### ***Double Patenting***

A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg.*

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*Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

Claims 61, 69-70, 74, 83-94, 98, 106-112, 116, 124-129, 131-132, 134, 136-137, 139-140, 142-143, are provisionally rejected under 35 U.S.C. 101 as claiming the same invention as that of claims 59-95 of copending Application No. 10/058,695. This is a provisional double patenting rejection since the conflicting claims have not in fact been patented.

Applicant's arguments filed 7/19/02 have been fully considered but they are not persuasive. Applicant argues that application 10/058,695, contains invention drawn to genus of epoethylone compounds while the instant application is drawn to individual species or subgenus of epoethylone compounds. The rejection is now amended to include only claims drawn to epoethylones A and B, which are embraced by the invention of application 10/058,695.

### ***Objection***

Claims 30, 59-143, are objected to under 37 CFR 1.75 as being substantial duplicates. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

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Reciting or changing the effective amount is not a further limitation in a composition claim. The limitation in a composition claim relates to the structure(s) of the active ingredient. While some of the above claims comprise compounds having different substituents at position R, such are claimed with different effective amounts. By deleting all the duplicates the objection would be overcome.

***IDS***

The IDS filed 7/19/02 has been placed in the application but not considered because, none of the references listed therein is received.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

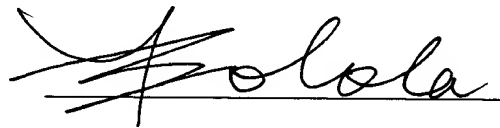
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*Telephone Inquiry*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Taofiq A. Solola whose telephone number is (703) 308-4690. The examiner is on flexible work schedule and the best days to get him are Mondays, Wednesdays and Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Joseph McKane, can be reached on (703) 308-4537. The fax phone number for this Group is (703) 308-4556.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-1235.

A handwritten signature in black ink, appearing to read 'Taofiq A. Solola', written over a horizontal line.

Taofiq A. Solola, Ph.D.

Primary Examiner

Group 1626

September 5, 2002